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Education

Stanford University, Master of Science, Civil Engineering and Environmental Fluid Mechanics, 1992
University of California Davis, Bachelor of Science, Civil Engineering (Water Resources), 1984

Research and professional experience

Project Chief, U.S. Geological Survey, Sacramento California, 1993-present
Research Assistant, Stanford University, 1991-1993
Hydraulic Engineer, U.S. Geological Survey, Menlo Park, 1984-1991

Awards

2010 Directors Award, U.S. Geological Survey
2010 Commissioner's Medallion, U.S. Bureau of Reclamation

2007 Estuarine Research Federation's Pritchard Award for the outstanding physical oceanography paper in *Estuaries and Coasts* during the past 2 years, with co-authors Lisa V. Lucas, Deanna M. Sereno, Tara S. Schraga, Cary B. Lopez, Mark T. Stacey, Konstantin V. Parchevsky and Vladimir P. Parchevsky for paper entitled: "Intradaily variability of water quality in a shallow tidal lagoon: mechanisms and implications" (2006. *Estuaries and Coasts* 29(5): 711-730)

2006 Excellence in Science Award, Water Resources Division, U.S. Geological Survey
2001 Engineer of the Year, U.S. Department of the Interior, U.S. Geological Survey

Publications and Proceedings (alphabetical)

Brennan, Matthew L., Schoellhamer, David H., **Bureau, Jon R.**, and Monismith, Stephen G., 2002, Tidal asymmetry and variability of bed shear stress and sediment bed flux at a site in San Francisco Bay, USA, *in* Winterwerp, J.C., and Kranenburg, C., eds., *Proceedings in Marine Science: Fine Sediment Dynamics in the Marine Environment*: Elsevier, p. 93-107

- Burau, Jon R.**, 1996, Recent advances in understanding the entrainment zone, presented at 3rd Biennial State of the Estuary Conference, San Francisco, California, October 10-12-1996
- Burau, Jon R.**, 1997, Effects of seasonal variations in freshwater inflow on transport processes in northern San Francisco, California, presented at 14th Biennial Estuarine Research Federation International Conference, Providence, Rhode Island, October 12-16, 1997
- Burau, Jon R.**, 2001, Hydrodynamics of North Bay--project update, *Interagency Ecological Program Newsletter*, v. 14, no. 1, p. 7-8. <http://www.iep.ca.gov/report/newsletter/2001winter/IEPNewsletterWinter2001.pdf>
- Burau, Jon R.**, 2001, Sills, and cells: A new conceptual model of gravitational circulation, and the null zone concept in Suisun Bay, presented at State of the San Francisco Estuary Conference, San Francisco, California, October 9-11, 2001. http://science.calwater.ca.gov/pdf/stateofestuary_confsum.pdf
- Burau, Jon R.**, 2003, Intertidal timescale transport in a tidally influenced network of channels--examples from the Sacramento/San Joaquin Delta, California, presented at 17th Biennial Conference of the Estuarine Research Federation, Seattle, Washington, September 14-18, 2003
- Burau, Jon R.**, 2003, On the future of Delta Cross Channel Studies, presented at CALFED Science Conference, Sacramento, California, January 14-16, 2003
- Burau, Jon R.**, and Cheng, Ralph T., 1988, Predicting tidal currents in San Francisco Bay using a spectral model, National Hydraulic Engineering Conference, Colorado Springs, Colorado, American Society of Civil Engineers p. 634-639
- Burau, Jon R.**, and Cheng, Ralph T., 1989, A general method for generating bathymetric data for hydrodynamic computer models. U.S. Geological Survey, Open File Report 89-28. <http://pubs.er.usgs.gov/usgspubs/ofr/ofr8928>
- Burau, Jon R.**, and Cheng, Ralph T., 1989, A vertically averaged spectral model for tidal circulation in estuaries: Part 1. Model formulation. U.S. Geological Survey, Water Resources Investigations Report 88-4126. <http://pubs.er.usgs.gov/usgspubs/wri/wri884126>
- Burau, Jon R.**, Cuetara, Jay I., and Ruhl, Cathy A., 2003, Effects of the tides, geometry, meteorology, and project operations on circulation, and mixing in a flooded island environment: Lessons from Mildred Island, presented at CALFED Science Conference, Sacramento, California, January 14-16, 2003

Burau, Jon R., Cuetara, Jay I., and Ruhl, Cathy A., 2003, Hydrodynamics of the Delta Cross Channel Region, presented at CALFED Science Conference, Sacramento, California, January 14-16, 2003

Burau, Jon R., Gartner, John W., and Stacey, Mark T., 1998, Results from the hydrodynamic element of the 1994 entrapment zone study, Suisun Bay, California, Report of the 1994 entrapment zone study, Technical Report, Interagency Ecological Program for the San Francisco Bay/Delta Estuary, p. 13-62.http://sfbay.wr.usgs.gov/publications/pdf/burau_1998_entrapment.pdf

Burau, Jon R., Monismith, Stephen G., Stacey, Mark T., Oltman, Richard N., Lacy, Jessica R., and Schoellhamer, David H., 1999, Recent research on the hydrodynamics of the Sacramento - San Joaquin River Delta and north San Francisco Bay *Interagency Ecological Program Newsletter*, v. 11, no. 2, p. 45-44.http://sfbay.wr.usgs.gov/publications/pdf/burau_1999_delta.pdf

Burau, Jon R., Monismith, Stephen G., Stacey, Mark T., Oltman, Richard N., Lacy, Jessica R., and Schoellhamer, David H., 2000, Recent research on the hydrodynamics of the Sacramento - San Joaquin River Delta and north San Francisco Bay *Interagency Ecological Program Newsletter*, v. 14, no. 2, p. 45-53.http://www.iep.ca.gov/report/newsletter/2000spring/IEPNewsletter_Spring2000.pdf

Burau, Jon R., and Schoellhamer, David H., 1996, Residual transport in Suisun Cutoff, San Francisco Bay, California, during Summer 1995: Part 1, Salt transport, presented at American Geophysical Union 1996 Fall Meeting, San Francisco, California, December 15-19, 1996

Burau, Jon R., Simpson, Michael R., and Cheng, Ralph T., 1993, Tidal and residual currents measured by an acoustic Doppler current profiler at the west end of Carquinez Strait, San Francisco Bay, California, March to November 1988. U.S. Geological Survey, Water Resources Investigations Report 92-4064. <http://pubs.er.usgs.gov/usgspubs/wri/wri924064>

Burau, Jon R., Stacey, Mark T., and Gartner, John W., 1995, Preliminary results from the hydrodynamic element of the 1994 entrapment zone study, *Interagency Ecological Program Newsletter*, p. 12-17.http://sfbay.wr.usgs.gov/publications/pdf/burau_1995_hydrodynamic.pdf

Cheng, Ralph T., and Burau, Jon R., 1988, System considerations in numerical modeling of estuarine problems, presented at Computational Methods in Flow Analysis, Okayama, Japan,

Cheng, Ralph T., **Burau, Jon R.**, and Gartner, Jeff W., 1991, Interfacing data analysis and numerical modeling for tidal hydrodynamic phenomena, *in* Parker, B.B., ed., Tidal Hydrodynamics: New York, John Wiley, p. 201-219

- Cuetara, Jay I., **Burau, Jon R.**, and Ruhl, Cathy A., 2003, Hydrodynamic Field Investigations on the San Joaquin River near the Head of Old River Barrier, presented at CALFED Science Conference, Sacramento, California, January 14-16, 2003
- Cuetara, Jay I., **Burau, Jon R.**, and Schoellhamer, David H., 2001, Hydrodynamic and Suspended-Solids Concentration Measurements in Suisun Bay, California, 1995. U.S. Geological Survey, Water Resources Investigations 01-4086. <http://water.usgs.gov/pubs/wri/wri014086/>
- Dinehart, Randal L., and **Burau, Jon R.**, 2003, Repeated surveys by acoustic Doppler current profiler for flow, and sediment dynamics at Delta Cross Channel, presented at CALFED Science Conference, Sacramento, California, January 14-16, 2003
- Dinehart, Randal L., and **Burau, Jon R.**, 2005, Averaged indicators of secondary flow in repeated acoustic Doppler current profiler crossings of bends, *Water Resources Research*, v. 41, no. 9, p. 1-18
- Dinehart, Randal L., and **Burau, Jon R.**, 2005, Repeated surveys by acoustic Doppler current profiler for flow and sediment dynamics in a tidal river, *Journal of Hydrology*, v. 314, no. 1-4, p. 1-21
- Fong, Derek A., Monismith, Stephen G., **Burau, Jon R.**, and Stacey, Mark T., 2003, Secondary currents and turbulent mixing in a curved estuarine channel, presented at 17th Biennial Estuarine Research Federation Conference, Seattle, Washington, September 14-18, 2003
- Fong, Derek A., Monismith, Stephen G., Stacey, Mark T., and **Burau, Jon R.**, 2009, Turbulent stresses and secondary currents in a tidal-forced channel with significant curvature and asymmetric bed forms, *Journal of Hydraulic Engineering*, v. 135, no. 3
- Gartner, Jeff W., and **Burau, Jon R.**, 1999, Hydrodynamic measurements in Suisun Bay, California, 1992-93. U.S. Geological Survey, Water Resources Investigations 99-4039. <http://pubs.er.usgs.gov/usgspubs/wri/wri994039>
- Kimmerer, Wim J., **Burau, Jon R.**, and Bennett, William A., 2002, Persistence of tidally-oriented vertical migration by zooplankton in a temperate estuary, *Estuaries*, v. 25, p. 359-371
- Lacy, Jessica R., Stacey, Mark T., **Burau, Jon R.**, and Monismith, Stephen G., 2003, The interaction of lateral baroclinic forcing and turbulence in an estuarine channel, presented at 17th Biennial Estuarine Research Federation Conference, Seattle, Washington, September 14-18, 2003

- Lacy, Jessica R. , Stacey, Mark T., **Burau, Jon R.**, and Monismith, Stephen G., 2003, Interaction of lateral baroclinic forcing and turbulence in an estuary, *Journal of Geophysical Research*, v. 108, no. c3, p. 3089
- Lopez, Cary B., Cloern, James E., Schraga, Tara S., Little, Amy J., Lucas, Lisa V., Thompson, Janet K., and **Burau, Jon R.**, 2006, Ecological values of shallow-water habitats: implications for the restoration of disturbed ecosystems, *Ecosystems*, v. 9, p. 422-440
- Lucas, Lisa V., Schraga, Tara S., Lopez, Cary B., **Burau, Jon R.**, and Jassby, Alan D., 2002, Pulsey, patchy water quality in the Delta: implications for meaningful monitoring, *Interagency Ecological Program Newsletter*, v. 15, no. 3, p. 21-27.<http://www.iep.ca.gov/report/newsletter/2002summer/IEPNewslettersummer2002.pdf>
- Lucas, Lisa V., Sereno, Deanna M., **Burau, Jon R.**, Schraga, Tara S., Lopez, Cary B., Stacey, Mark T., Parchevsky, Konstantin V., and Parchevsky, Vladimir 2006, Intradaily variability of water quality in a shallow tidal lagoon: mechanisms and implications, *Estuaries and Coasta*, v. 29, no. 5, p. 711-730
- Monismith, Stephen G., **Burau, Jon R.**, and Stacey, Mark T, 1996, Stratification dynamics and gravitational circulation in northern San Francisco Bay, *in* Hollibaugh, T., ed., *San Francisco Bay: The Ecosystem: American Association for the Advancement of Science*, p. 123-153
- Monismith, Stephen G., Kimmerer, Wim J., and **Burau, Jon R.**, 2002, Structure and Flow-Induced Variability of the Subtidal Salinity Field in Northern San Francisco Bay, *Journal of Physical Oceanography*, v. 32, p. 3003-3019
- Monsen, Nancy E., Cloern, James E., and **Burau, Jon R.**, 2007, Effects of flow diversions on water and habitat quality: examples from California's highly manipulated Sacramento-San Joaquin Delta, *San Francisco Estuary and Watershed Science*, v. 5, no. 3.<http://escholarship.org/uc/item/04822861>
- Ruhl, Cathy A., **Burau, Jon R.**, and Oltmann, Richard N., 2002, Hydrodynamic Field Study of a Shallow Estuarine Subembayment, Sherman Lake, California, presented at American Society of Civil Engineers, and the International Association of Hydraulic Engineering, and Research Hydraulic Measurements, and Experimental Methods Conference, Estes Park, Colorado, July 28-August 1, 2002
- Ruhl, Cathy A., **Burau, Jon R.**, and Oltmann, Richard N., 2002, Hydrodynamics of the Sacramento-San Joaquin Rivers Confluence: Measurements collected during Fall 1998 in San Francisco Bay-Estuary, California, presented at American Society of Civil Engineers, and the International Association of Hydraulic

Engineering, and Research Hydraulic Measurements, and Experimental Methods Conference, Estes Park, Colorado, July 28-August 1, 2002

Ruhl, Cathy A., **Burau, Jon R.**, and Oltmann, Richard N., 2003, Sherman Lake: A Case study in circulation, and mixing in shallow water habitat, presented at CALFED Science Conference, Sacramento, California, January 14-16, 2003

Schoellhamer, David H., and **Burau, Jon R.**, 1996, Residual transport in Suisun Cutoff, San Francisco Bay, California, during Summer 1995: part 1, salt transport, presented at American Geophysical Union 1996 Fall Meeting, San Francisco, California, December 15-19, 1996

Schoellhamer, David H., and **Burau, Jon R.**, 1996, Residual transport in Suisun Cutoff, San Francisco Bay, California, during Summer 1995: Part 2, Sediment transport, presented at American Geophysical Union 1996 Fall Meeting, San Francisco, California, December 15-19, 1996

Schoellhamer, David H., and **Burau, Jon R.**, 1998, Summary of Findings About Circulation and the Estuarine Turbidity Maximum in Suisun Bay, California. U.S. Geological Survey, Fact Sheet 047-98.
<http://pubs.er.usgs.gov/usgspubs/fs/fs04798>

Schoellhamer, David H., and **Burau, Jon R.**, 2000, Transfer of cohesive sediment between the bed, and water column at a site in San Francisco Bay, USA, presented at 6th International Conference on Nearshore, and Estuarine Cohesive Sediment Transport Processes, Delft, Netherlands, September 4-8, 2000

Smith, Peter E., Cheng, Ralph T., **Burau, Jon R.**, and Simpson, Michael R., 1991, Gravitational circulation in a tidal strait, 1991 National Conference on Hydraulic Engineering, Nashville, Tennessee, July 29-August 2, 1991, American Society of Civil Engineers, p. 429-434

Stacey, Mark T, **Burau, Jon R.**, and Monismith, Stephen G., 2001, The creation of residual flows in a partially stratified estuary, *Journal of Geophysical Research*, v. 106, no. C8, p. 17 013-017 038

Stacey, Mark T, Monismith, Stephen G., and **Burau, Jon R.**, 1999, Observations of turbulence in a partially stratified estuary, *Journal of Physical Oceanography*, v. 29, p. 1950-1970

Warner, John, Schoellhamer, David H., **Burau, Jon R.**, and Schladow, S. Geoffrey, 2002, Effects of tidal current phase at the junction of two straits, *Continental Shelf Research*, v. 22, no. 11-13, p. 1629-1642

Warner, John C., Schoellhamer, David H., **Burau, Jon R.**, and Schladow, S. Geoffrey, 2000, Effects of tidal current phase at the junction of two straits, presented at

American Geophysical Union 2000 Fall Meeting, San Francisco, California,
March 17-19, 1999

Warner, John C., Schoellhamer, David H., **Burau, Jon R.**, and Schladow, S. Geoffrey,
2006, Flow convergence caused by a salinity minimum in a tidal channel, *San
Francisco Estuary and Watershed Science*, v. 4, no.
3. <http://escholarship.org/uc/item/2m6367vc>

Warner, John C., Schoellhamer, David H., Ruhl, Catherine A., and **Burau, Jon R.**,
2004, Floodtide pulses after low tides in shallow subembayments adjacent to
deep channels, *Estuarine, Coastal and Shelf Science*, v. 60, no. 2, p. 213-228

Warner, John C., Schoellhamer, David H., Schladow, S. Geoffrey, and **Burau, Jon R.**,
1999, Napa/Sonoma Marsh hydrodynamic, and water-quality study, presented at
4th Biennial State of the Estuary Conference, San Francisco, California, March
17-19, 1999